Commonwealth of Kentucky
Division for Air Quality

EXECUTIVE SUMMARY

PROPOSED
Title V, Construction / Operating
Permit: V-07-045, Renewal
Trace Die Cast, Inc.

April 21, 2008
Vahid Bakhtiar, Reviewer

SOURCE ID:	21-227-00085
AGENCY INTEREST:	4142
ACTIVITY:	APE20070001

SOURCE DESCRIPTION:

Trace Die Cast, Inc. melts aluminum ingots before casting them into aluminum parts. Clean aluminum ingots are preheated in a 0.35-mmbtu/hour, natural gas-fired pre-heater before charging them into 6 reverberatory melt furnaces, emission points 101(CF1)-106(CF6). The furnaces are natural gas–fired and have a total melting rate of 13 tons/hour of aluminum ingots. Both emission points 101(CF1) and 102(CF2) have a maximum continuous rating of 8.0 mmbtu/hour each while emission point 103(CF3) is 6.0 mmbtu/hour and 104(CF4), 105(CF5) and 106(CF6) are 10.0 mmbtu/hour. The molten aluminum is fluxed with chloride and fluoride based flux salts. Aluminum dross formed is sent off site for metal recovery. The melted and fluxed aluminum is then transferred to 38 holding furnaces, emission points 201(HF1)-216(HF16), 221(HF21)-225(HF25), 230(HF30)-236(HF36), 241(HF41)-245(HF45), and 251(HF51)-255(HF55) where it is fluxed again using chloride and fluoride based flux salts. The holding furnaces have a maximum holding rate of about 17 tons/hour. Each holding furnace, except for 230(HF30)-233(HF33), has a maximum continuous rating of 0.25 mmbtu/hour. Emission points 230(HF30)-233(HF33) each has a rating of 0.33 mmbtu/hour. Subsequently, the molten aluminum from the holding furnaces is cast into aluminum parts in 38 corresponding die cast machines, emission points 301(DCM1)-316(DCM16), 321(DCM21)-325(DCM25), 330(DCM30)-336(DCM36), 241(DCM41)-245(DCM45), and 251(DCM51)-255(DCM55). Five different casting lubricants, grease, and oil are used in the die cast machines along with water. The aluminum castings are then trimmed by a hydraulic press before they are polished by steel shots in 3 shot blast machines, emission points 501(SB1)-504(SB4), which have a total rate of 6.75 tons/hour of aluminum castings. The effluent water from the die cast machines are evaporated in 6 evaporators, emission points 401(Evap1)-406(Evap6), to separate the oils from the water. The trimmed and shot blasted aluminum scrap is collected and sent back to the melt furnaces to be re-melted. Spent steel shots are collected and disposed of in landfill.

PUBLIC AND AFFECTED STATE REVIEW:

On March 11, 2008, the public notice on availability of the draft permit and supporting material for comments by persons affected by the plant was published in *Bowling Green Daily News* in Bowling Green, Kentucky. The public comment period expired 30 days from the date of publication.

No comments were received during this period. The final determination of this Division is that the proposed operation will comply with all air quality regulations and requirements. The permit is now being issued as proposed. A final permit will be issued after the U.S. EPA's 45-day review.